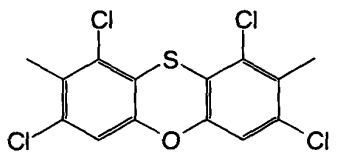


Patent claims:

1. A method for the nuclear chlorination of ortho-xylene, which comprises reacting ortho-xylene with a chlorinating agent in the presence of at least one Friedel-Crafts catalyst and chlorine-substituted 2,8-dimethylphenoxathiin as co-catalyst.

2. The method as claimed in claim 1, wherein tetrachlorinated 2,8-dimethylphenoxathiin is used, preferably 1,3,7,9-tetrachloro-2,8-dimethylphenoxathiin of the formula



3. The method as claimed in claim 1 or 2, wherein elemental chlorine or sulfuryl chloride is used as chlorinating agent.

4. The method as claimed in at least one of the preceding claims, wherein the co-catalyst is used in an amount of from 0.001 to 5% by weight, based on the amount of the ortho-xylene used.

5. The method as claimed in at least one of the preceding claims, wherein the ratio of Friedel-Crafts catalyst or its precursor to the co-catalyst is in the range from 500:1 to 1:5.

6. The method as claimed in at least one of the preceding claims, wherein the method is carried out without addition of a solvent.

7. The method as claimed in at least one of the preceding claims, wherein the method is carried out at a temperature in the range from -20 to +120°C.
8. The method as claimed in at least one of the preceding claims, wherein the amount of the chlorinating agent used is selected such that a degree of chlorination of significantly greater than 1 results.